CLAIMS

What is claimed is:

1. A precision mask for deposition, comprising:

a first brace including a plurlaity of sections parallel to each other at given intervals, the first brace forming portions that define a plurality of first openings;

a second brace on the first brace and intersecting with the first brace;

the second brace forming portions that define a plurality of second openings; and

the second brace being joined to the first brace at a point where the second brace intersects the first brace.

2. The precision mask for deposition according to Claim 1, further comprising:

a mask substrate;

wherein the first brace and the second brace are joined to the mask substrate.

3. The precision mask for deposition according to Claim 2,

wherein the mask substrate comprises single crystal silicon.

4. The precision mask for deposition according to Claim 3,

wherein at least one of side surfaces of the first brace and side surfaces of the second brace is of surface orientation (111).

5. The precision mask for deposition according to Claim 3,

wherein the mask substrate comprises single crystal silicon of surface orientation (110);

side surfaces of the first brace are perpendicular (111) to surface orientation (110) of the mask substrate; and

side surfaces of the second brace are perpendicular (111) to surface orientation (110) of the mask substrate.

6. The precision mask for deposition according to Claim 3,

wherein the mask substrate comprises single crystal silicon having an oxygen concentration of $1.7*10^{18}$ atm/cm^3 or below.

7. A method for manufacturing the precision mask for deposition according to Claim 1, the method comprising the steps of:

forming an etching protective film on the mask substrate that is made of single crystal silicon;

patterning configurations corresponding to the plurality of first openings, defined by the first brace on the back of the mask substrate, on the etching protective film;

patterning configurations corresponding to the plurality of second openings, defined by the second brace on the surface of the mask substrate, on the etching protective film;

removing the etching protective film in parts that are patterned; and

forming the first openings and the second openings by etching.

8. The method for manufacturing the precision mask for deposition according to Claim 7, the step of forming the etching protective film on the mask substrate that is made of single crystal silicon further comprising the steps of:

heating the mask substrate up to 500 °C or higher;

cooling the mask substrate; and

cooling the mask substrate at an average cooling rate of at least 3 °C per minute in a temperature range from 500 to 800 °C.

9. The method for manufacturing the precision mask for deposition according to Claim 8, the step of forming the etching protective film on the mask substrate that is made of single crystal silicon further comprising the step of:

forming the etching protective film by thermal oxidation.

10. An electroluminescence display comprising:

an electroluminescence layer that is formed with the precision mask for deposition according to Claim 1.

11. A method for manufacturing an electroluminescence display, the method comprising the step of:

placing the precision mask for deposition according to Claim 1 at a predetermined position on the glass substrate so as to form the electroluminescence layer.

12. Electronic equipment, comprising:
the electroluminescence display according to Claim 10.

13. A precision mask for deposition, comprising:

a first brace including a plurality of first spaced apart parallel ribs defining a plurality of first openings; and

a second brace including a plurality of second spaced apart parallel ribs defining a plurality of second openings, the first brace being joined to the second brace where the first ribs intersect the second ribs.